C-2.2 Summarize atomic properties (including electron configuration, ionization energy, electron affinity, atomic size, and ionic size).

Revised Taxonomy Level 2.4 <u>Summarize</u> conceptual knowledge

In Physical Science students

- Predict the charge that a representative element will acquire according to the arrangement of electrons in its outer energy level.(PS-2.5)

It is essential for all students to

- Understand the following atomic characteristics and properties (in terms of atomic structure) and understand what variables influence the magnitude of the characteristics or properties for a given element.
  - Electron configuration
  - Ionization energy
  - Electron Affinity
  - Relative size of atoms
  - Ionic size

Tradition Chemistry differentiation

- Understand electronegativity

Assessment

The revised taxonomy verb, summarize means "to abstract a general theme or major point" For this indicator, the major focus of assessment should be to insure that students have a deep conceptual understanding (in terms of atomic structure) of the terms electron configuration, ionization energy, electron affinity, and atomic radius, and ionic radius. Conceptual knowledge requires that students understand the interrelationships among the basic elements within a larger structure that enable them to function together. In this case, that students understand how atomic structure determines the characteristics and also how the characteristics influence each other, (for example, how atomic size influences reactivity).